

CONFIGURATIONS OF ENTREPRENEURIAL, TECHNOLOGICAL, AND MARKET ORIENTATIONS AND NEW VENTURES PERFORMANCE

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Abstract

Purpose: Based on the configuration approach, the paper examined the common impact of selected strategic orientations, namely entrepreneurial, technological, and market orientations on the performance of new business ventures.

Methodology: This study employs a configurational approach, using fuzzy set Qualitative Comparative Analysis (fs/QCA), to analyze the constellations of different strategic orientations that yield superior performance.

Result: The results suggest that the performance of a new venture depends on configurations, where firms with high levels of entrepreneurial, technological, and market orientations perform better than firms with other configurations. However, there are other configurations of strategic orientations that also, though to a lesser extent, improve the performance of the entities under study. Conducted research provides a detailed understanding of which different configurations improve the performance of new ventures and which configurations are more effective.

Applications: This research can be used for universities, teachers, and students. [Dai, O., & Liu, X. \(2009\).](#)

Novelty/Originality: In this research, the model of configurations of entrepreneurial, technological, and market orientations and new ventures performance is presented in a comprehensive and complete manner.

Keywords: *entrepreneurial orientation, technological orientation, market orientation, fuzzy set Qualitative Comparative Analysis, configurational theory.*

INTRODUCTION

New ventures make important contributions to job creation, technological progress, and productivity growth. However, compared with established firms, new ventures are more likely to face low survival rates and poor performance because of the liability of newness. What more new ventures are more vulnerable to the shocks brought about by an uncertain environment because of inadequate legitimacy, asymmetric information, and incomplete performance records. Strategic orientation may help new ventures adapt to the fast-changing market as well as obtain and maintain competitive advantage, which positively affects new ventures' performance by creating possible dynamic capabilities ([Rusniati, Pendidikan 2015](#); [Sujarwo, Reorientasi 2006](#)).

Strategic orientation is the principle that guides and influences enterprise activities and produces behaviors that ensure enterprise survival and performance. Three typical strategic orientations are apparent from the research: entrepreneurial orientation, market orientation, and technological orientation. Entrepreneurial orientation reflects a firm's degree of risk-taking, proactiveness, and innovativeness. Technological orientation is a guiding principle that stresses the application of technologies in product and operational procedures. Market orientation encompasses a firm's organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it ([Ameen, Ahmed & Hafez, 2018](#); [Yazdekhasti Erfan & Nazari, 2015](#)).

Entrepreneurial, market and technological orientation attracted considerable research attention. The majority of studies focus on a particular orientation and finds direct, single connection with firm performance. This isolated perspective is problematic, as firms regularly employ multiple strategic orientations. However, the relationships between entrepreneurial, market and technological orientation attract comparably limited research attention to date. A very limited number of studies perceive entrepreneurial, market and technological orientation as a kind of complementary pattern in the sense that strategic orientations support each other. Hence the question of whether and what different combinations of strategic orientations lead to superior performance has not yet been fully resolved.

In the paper based on the configurational approach, it was examined how entrepreneurial orientation, market orientation, and technological orientation together influence the performance of new ventures. Organizational configurations are "any multidimensional constellation of conceptually distinct characteristics that commonly occur together". The basic assumption of this paper is that a firm's ability to align entrepreneurial, market and technological orientation to a unique configuration of firm capabilities allows the company to achieve competitive advantages increasing its performance. However, empirically, configurational arguments face the methodological challenges of modeling multiple, complex relationships between the elements of a configuration. Traditional multivariate analytical methods are frequently less adept at capturing complex systems of interdependencies among the elements of a configuration and outcome variables. To overcome the methodological challenges the current research uses fuzzy set qualitative [Dai, O., & Liu, X. \(2009\).](#)

comparative analysis (fs/QCA), a set-theoretic configurational approach with the ability to handle high degrees of complexity in how different causal conditions combine to bring about an outcome. Rather than estimating the average net effect of a particular orientation, the study assesses how multiple, alternative configurations of orientations explain firm performance.

The study offers the following contributions. In relation to the strategic orientations literature, the researchers analyzed the internal boundary factors of selected strategic orientations and their impact on performance of new ventures. The use of a configurational approach simplifies theoretical development and allows practical implications through a better understanding of which strategic orientations new ventures should be implemented in order to gain competitive advantages leading to better performance. This study shows that different strategic orientations, if interacted, can have a significant influence on the performance of new ventures, and thus it contributes to the strategic orientation literature. Moreover, employing fs/QCA allows not only identifying distinct configurations of strategic orientations leading to superior performance of new ventures but also quantifying which specific configurations are most influential.

BACKGROUND LITERATURE

On the basis of an enterprise's strategic direction and implementation focus, specific strategic orientations are used, such as entrepreneurial orientation, market orientation, and technological orientation. According to, those directed at specific strategic orientation types are a strategic stream, which continues to evolve. The majority of prior empirical studies focus on the influence of particular strategic orientation and its effect on organizational performance. Research analyzing more than one strategic orientation is limited. The existing studies that consider the interrelationships between entrepreneurial orientation, technological orientation, and market orientation analyze parallel direct effects of these orientations on performance or investigate sequential mediator relationships between orientations or aggregate orientations as higher-order factors influencing performance.

What more, studies have rarely focused on the influences of strategic orientation on the performance of new ventures. Relative to established enterprises, new ventures face powerful competitors and suppliers, doubtful customers, and insufficient resources, which makes them more sensitive to environmental uncertainty in an emerging economy that features rapid changes, especially in a transitional economy (30). Strategic orientation is especially important to new ventures because it helps build dynamic capabilities for rapidly adapting to environmental changes and competitive advantages for enterprises.

Entrepreneurship and management literature has demonstrated that entrepreneurial orientation is very important for firms to achieve superior firm performance. [Morgan, R. E., & Berthon, P. \(2008\)](#).

Entrepreneurial orientation is about how firms pursue a new market with methods, practices, and decision-making styles that help managers to act in an entrepreneurial manner. Market orientation is also well-established construct in the strategic orientation literature. Market orientation refers to the extent to which the firm's strategies and operations are ready to respond to market demands and any changes in the market. A meta-analysis of market orientation revealed that market orientation has a significant influence on firm performance. Technological orientation is a guiding principle that stresses the application of technologies in products and operational procedures and reflects the degree to which an enterprise obtains and applies complicated technologies. Technological orientation stresses the application of the technologies in product design and manufacturing and in the operation process regarding the whole firm's development. Technological orientation could urge firms to actively adopt new technology for products and operating procedures, enhancing the business's ability to survive in a competitive environment ([Morgan, R. E., & Berthon, P. \(2008\)](#)).

Entrepreneurial orientation, market orientation, and technological orientation are interrelated constructs with a mutually dependent effect on performance. Firms with a high level of entrepreneurial orientation are innovative, proactive and risk-taking, which greatly encourages the introduction of new products and services to the market

But in order to develop, entrepreneurial firms have to orient themselves towards market demands. These features relate to market-oriented companies that closely monitor and respond to market demands and customers' needs. Furthermore, the knowledge and experience accumulated in the process of innovating and improving products can in return promote the discovery of new market opportunities. This means that entrepreneurial and technological orientations are mutually promoted. A firm that is proactively implementing technological orientation can quickly apply relevant technologies for its own use once it discovers a market opportunity. The firm can then narrow the exploration range, lower exploration costs through active research and development, and improve the technical content of products with the timely application of new technology. The interaction between technological and entrepreneurial orientations would combine technology with existing products and services for a better operation process. During the developmental stage of a new venture, entrepreneurial orientation, market orientation, and technological orientation interact significantly. Entrepreneurial orientation reflects the degree to which entrepreneurs are willing to search for new opportunities. The higher the degree of entrepreneurship involved in innovation, the more willingness will be exerted to innovate or gain technology and knowledge as well as to take risks and be proactive when first-mover advantages in emerging markets are available ([Zahra, S. A., & Filatotchev, I. \(2004\)](#)).

In summary, the existing literature has made a significant contribution regarding the impact of entrepreneurial orientation, technological orientation, and market orientation on the company's performance. The findings support the notion that firms pursue different strategic orientations simultaneously in order to be successful ([Razavi, Nasirian & Afkhami, 2015](#)). However, a comprehensive configurational approach analyzing the effect of different configurations of entrepreneurial orientation, technological orientation, and market orientation on firm performance is yet missing. Mutual dependences between entrepreneurial orientation, market orientation, and technological orientation emphasize that specific configurations of strategic orientations affect the company's performance. Entrepreneurial orientation, technological orientation, and market orientation are complementary capabilities jointly facilitating competitive advantages enhancing new ventures' performance. In sum, these considerations lead to Hypothesis: Different configurations of entrepreneurial orientation, market orientation, and technological orientation clarify the performance of new ventures.

METHOD

We collected samples from new ventures in Poland. The research period for data investigation was from September-November 2016. We conducted in-house surveys in firms and face-to-face interviews with the entrepreneurs. If an interviewee could not understand or was not willing to answer certain questions during the in-house survey, investigators gave explanations to avoid incomplete answers. Because the objective of the investigation highlighted entrepreneurial activities, the investigators needed to collect the data from firms established between 2011 and 2015. The establishment of the researched companies was not to exceed 5 years, which conforms to standards used in most international empirical studies on entrepreneurial activities ([Araújo, Henriques, & Martini, 2018](#)). The youngest firms, though established for only 1 year, had achieved a certain level of performance, and we considered them appropriate for the empirical study. Through the investigation, we collected 58 completed questionnaires. According to the sample statistics, the average time since the establishment of the firm was 4.5 years, with the average number of employees being 13.

All measures stem from established scales in the entrepreneurship and management literature. Drawing on established measurement scales is necessary as improper measurement may result in questionable findings and potentially unwarranted conclusions. Statement-style items were measured on five-point Likert-scales (1 = strongly disagree to 5 = strongly agree for items measuring strategic orientations and 1 = much poorer to 5 = much better for items capturing firm performance).

To measure firm performance (Cronbach's $\alpha = 0.92$) respondents were asked to indicate how successful their firm operated with regard to profit growth, sales growth, market share growth, and employee growth relative to their strongest competitor in the last fiscal year. The use of a multi-faceted measure of firm performance is in line with the recommendations of the previous literature urging researchers not to focus on too narrow defined constructs because the measurement of results with multiple indicators increases the robustness of the resulting conclusion. To measure entrepreneurial orientation, the study uses scale, which is based on operationalization of entrepreneurial orientation consisting of three dimensions (i.e., innovativeness, proactiveness, and risk-taking). Reference reported a Cronbach's α of 0.87 for this scale. In this current research, Cronbach's α is 0.82, and those of innovation, proactiveness, and risk-taking are 0.78, 0.71, and 0.76, respectively. Thus, the reliability of the scale used in this research is acceptable. To measure market orientation we used the scale, which is containing ten questions. They reported a Cronbach's α of 0.88. In this research, Cronbach's α is 0.82, showing the reliability of the scale is fairly good. To measure technological orientation we used the scale containing four questions. Reference reported a Cronbach's α of 0.73. In this research, the value is 0.71, showing the reliability of the scale used in this research is fairly good.

To verify the hypothesis, the study used fuzzy-set Qualitative Comparative Analysis (fs/QCA) and analyzed various configurations of firms' strategic orientations leading to superior performance. The fs/QCA approach uses Boolean logic to analyze the relationships between cases (viewed as multiple combinations of different causal conditions) and the outcome. Therefore, fs/QCA is especially well suited for identifying different configurations leading to better performance, because the method identifies how membership of cases in causal conditions (i.e., different configurations of strategic orientations) is linked to membership in the outcome variable (i.e., different levels of performance).

In order to be able to apply fs/QCA, the original scales first have to be calibrated into set membership values (indicating the degree of membership in a set) in the range from 0 to 1. To arrive at continuous set membership values (in the range between 0 and 1), the log odds method described by is applied. As indicated in the literature (28; 32; 38), three anchor points were used to perform this calibration: the 5%-percentile, the median, and the 95%-percentile of a variable. The extreme points define full non-membership/full membership in a set, while the median is the crossover point indicating that a case is neither in nor out of a set. All analyses used the fs/QCA 2.5 software package.

RESULTS

Fs/QCA in this study has been used to preliminarily examine the different configurations between entrepreneurial orientation, market orientation, and technological orientation. By using the calibrated values (indicating the degree of set membership) for strategic orientations and for firm performance, the consistency of all configurations of the three strategic orientations with a membership in the high-performance set was estimated. Consistency "assesses the degree to which the cases sharing a combination of conditions agree in displaying the outcome in question" ([Novikova, et al. 2018](#); [Kenan, 2018](#)). Table 1 shows each configuration's consistency and the resulting test against the consistency threshold of 0.74.

Table 1: Results of fuzzy-set Qualitative Comparative Analysis

No.	EO	MO	TO	C	RC	UC
1	High	High	High	0,91	0,51	0,13
2	High	High	Low	0,89	0,36	0,04
3	High	Low	High	0,84	0,31	0,05
4	High	Low	Low	0,79	0,21	0,01
5	Low	High	High	0,85	0,33	0,02
6	Low	High	Low	0,77	0,22	0,02
7	Low	Low	High	0,78	0,20	0,01
8	Low	Low	Low	0,77	0,19	0,01
Note						

EO – Entrepreneurial Orientation;

MO – Market Orientation;

TO – Technological Orientation;

C – Consistency;

RC - Raw Coverage;

UC - Unique Coverage

Four distinct configurations (with numbers 1, 2, 3, 5 respectively) of strategic orientations have a significant consistency with high performance ($p \leq 0.05$). This finding lends support to our hypothesis that different configurations of entrepreneurial orientation, market orientation, and technological orientation clarify the performance of new ventures. Configurations with a high consistency (1, 2, 3, 5) may only have a sufficient but not a necessary relation to the focal outcome. Therefore, Table I also shows for each configuration with significant consistency the solution's coverage. Coverage “assesses the degree to which a causal combination accounts for instances of an outcome”. Coverage indicates the empirical meaning of different paths for the same outcome and, is rather conceptionally analog to the coefficient of determination (R^2) in a regression analysis. As four different configurations are sufficient for high firm performance, coverage can be partitioned into a configuration's raw coverage (i.e., the proportion of outcome cases covered by a given configuration) and its unique coverage (i.e., proportion of outcome cases exclusively covered by a given configuration). Hence Table I allows quantifying the contribution each sufficient configuration uniquely provides to firms' membership in the high-performance set. The results indicated that a configuration with high levels of entrepreneurial orientation, market orientation, and technological orientation (configuration 1) has the greatest impact on the high performance of firms (unique coverage=0.13). This result gives support for our hypothesis. It is worth noting, however, that other configurations of strategic orientations are also able to provide unique (though to a lesser extent) contributions to high performance (Zahra, S. A., & Filatotchev, I. (2004)).

DISCUSSION AND LIMITATIONS

The purpose of the study was to provide a more detailed understanding of how strategic orientations collectively influence the performance of new ventures. The results suggest that the performance of new ventures is really dependent on different configurations of strategic orientations. In addition, the findings suggest that new ventures with high levels of entrepreneurial orientation, market orientation, and technological orientation outperform firms with other configurations (configuration 1). These strategic orientations appear to be complementary, jointly lead to a competitive advantage, and mutually support each other. The results achieved in the study agree with previous research, because the configuration with high levels of entrepreneurial orientation, market orientation, and technological orientation is a unique combination of resources that is rare, valuable, and hard to imitate and enabling firms to achieve an advantageous position in competitive markets. Entrepreneurially oriented firms acting with innovative, risky, and proactive actions on the market are most successful if those actions are guided by both market orientation, and technological orientation views. In this sense, the results expand previous research that previously focused on the isolated or moderated impact of entrepreneurial orientation on performance. Research proves that firms with high levels of entrepreneurial orientation are most successful if entrepreneurial orientation is combined with market orientation, as well as technological orientation (Zahra, S. A., & Filatotchev, I. (2004)).

The findings indicate that besides a configuration with high levels of entrepreneurial orientation, market orientation, and technological orientation three other configurations of strategic orientations also increase firm performance, though a bit to a lesser extent. The present study's findings suggest that configurations with high entrepreneurial orientation and high technological orientation (configuration 3) or with high entrepreneurial orientation and high market orientation (configuration 2) positively influence new venture performance. It means that entrepreneurs who are seeking good performance have to be proactive and take risks, identify and discover new market opportunities, and be dedicated to creating and integrating advanced technologies. They must also apply technologies to products and procedures.

Moreover, the risky, proactive, and innovative firm behavior implied by entrepreneurial orientation does not lead to higher firm performance if it is not guided by high levels of market orientation or technological orientation. What more firms with high levels of entrepreneurial orientation are unable to achieve higher performance levels if both market orientation and technological orientation are low? This is consistent with prior research finding high levels of entrepreneurial orientation not sufficient to achieve superior overall performance (Zahra, S. A., & Filatotchev, I. (2004)).

Furthermore, the results stress the important role of market orientation as well as technological orientation. Market-oriented firms are closer to the customer's needs and are able to translate the gained information into products and services that bring specific customer benefits, what more this knowledge about customers and markets helps to compensate lacking innovative actions together with high technological orientation (configuration 5). This finding extends previous research by suggesting that market orientation along with technological orientation facilitates a better understanding of the hidden needs of current customers, as well as the active introduction of new technologically advanced solutions even in combination with low levels of entrepreneurial orientation.

This research has some noteworthy limitations. The first limitation of this study is its dependence on the three types of strategic orientation: entrepreneurial, market, and technological orientations. Even though strategic orientations have attracted vast research attention over the past decades, the field is far from settled. In fact, several interesting avenues for future research still exist. A central finding of this study is that specific configuration of entrepreneurial orientation, market orientation, and technological orientation positively influence performance. However, all three strategic orientations are multidimensional concepts with several dimensions. It might be interesting to be aware of the different sub-dimensions and to investigate the effects of the particular dimensions on firm performance as well as their interplay. Although previous studies have paid attention to other types of strategic orientation, such as competition orientation and consumer orientation which may have some similarities with market orientation, this research does not deal with them. In the future, we will focus on the influences of other orientations on the performance of new ventures. Second, the current study uses subjective measures rather than actual performance data to assess performance outcomes. Although this is a limitation, some studies report such measures to be satisfactory reflections of actual firm performance. Third, the geographic scope and sample size of this study are limitations because the empirical data came mostly from new ventures in Poland. We expect that, given an appropriate perspective, research based on a larger sample and with more data collection may be conducted to provide more credibility to our conclusions.

It is worth emphasizing that the study employs fuzzy-set Qualitative Comparative Analysis (fs/QCA). The fs/QCA approach assumes that the influence of attributes on a specific outcome depends on how the attributes are combined, rather than on the levels of the individual attributes per se (9). In this sense, it can provide a great deal more information on how different variables interact to produce outcomes than traditional statistical methods, which can be of great practical use to managerial decision-makers. The current research demonstrates the value of employing a novel methodology that is particularly suitable for modeling the complex, multiple interactions inherent in configurational theories in general and the strategy and marketing literature in particular.

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